CLAIMS

1. A method of cutting a rare-earth alloy with a wire saw obtained by fixing abrasive grains on a core wire with a resin layer, the method comprising the step of

moving the wire saw while a portion of the rare-earth alloy being machined with the wire saw is immersed in a coolant, which is mainly composed of water and has a surface tension of 25 mN/m to 60 mN/m at 25 ℃, thereby cutting the rare-earth alloy,

wherein in the wire saw, an average distance between two of the abrasive grains, which are adjacent to each other in a length direction, is 150% to less than 400% of the average grain size of the abrasive grains, an average height of portions of the abrasive grains, protruding from the surface of the resin layer, is 70% or less of the average grain size of the abrasive grains, and a thickness deviation percentage of the resin layer with respect to the core wire is 40%.

2. A method of cutting a rare-earth alloy with a wire saw obtained by fixing abrasive grains on a core wire with a

resin layer, the method comprising the step of

moving the wire saw while a portion of the rare-earth alloy being machined with the wire saw is immersed in a coolant, which is mainly composed of water and has a kinetic friction coefficient of 0.1 to 0.3 at 25 ℃ with respect to the rare-earth alloy, thereby cutting the rare-earth alloy,

wherein in the wire saw, an average distance between two of the abrasive grains, which are adjacent to each other in a length direction, is 150% to less than 400% of the average grain size of the abrasive grains, an average height of portions of the abrasive grains, protruding from the surface of the resin layer, is 70% or less of the average grain size of the abrasive grains, and a thickness deviation percentage of the resin layer with respect to the core wire is 40%.

3. The rare-earth alloy cutting method of claim 1 or 2, wherein the average grain size D of the abrasive grains satisfies 20 μm$\leqq$D$\leqq$60 μm.

4. The rare-earth alloy cutting method of one of claims 1

to 3, wherein the core wire has a diameter of 0.12 mm to 0.2 mm.

5. The rare-earth alloy cutting method of one of claims 1 to 4, wherein the resin layer is made of a phenol resin, an epoxy resin or a polyimide resin.

6. The rare-earth alloy cutting method of one of claims 1 to 5, wherein the step of moving the wire saw includes the step of moving the wire saw on a plurality of rollers, and

wherein each of the plurality of rollers includes a polymer layer on which a guide groove is provided, the guide groove has a pair of sloped surfaces, at least one of which defines an angle of 25 degrees to less than 45 degrees with respect to a radial direction of the roller, and the wire is passed between the sloped surfaces.

7. The rare-earth alloy cutting method of one of claims 1 to 6, wherein the rare-earth alloy is an R-Fe-B based rare-earth sintered alloy.

8. The rare-earth alloy cutting method of claim 7, wherein the rare-earth alloy is an Nd-Fe-B based rare-earth sintered alloy.